Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for outputting signals from dark reference pixels, the method comprising the steps of:

(a) providing an image sensor having rows and columns of pixels, the upper portion including ~~includes~~ rows of only image capture pixels that convert incident light into a charge, the bottom portion including rows of only dark reference pixels that are substantially shielded from light;

(b) transferring the signals from the plurality of dark reference pixels ~~that are substantially shielded from light~~ to a plurality of sample and hold circuits, wherein a sample and hold circuit is electrically connected to each column of pixels; and

(c) transferring signals substantially simultaneously from each of the plurality of sample and hold circuits to an operational amplifier on one clock cycle by placing a switch electrically connected to each sample and hold circuit into a first state, wherein the operational amplifier produces a substantially average dark signal for each row of dark reference pixels ~~which operational amplifier produces a substantially average dark signal for each row of dark reference pixels~~.

2. (Cancelled).

3. (Previously presented) The method as in claim 1 further comprising providing a differential operational amplifier as the operational amplifier.

4. (Previously presented) The method as in claim 1, wherein step (b) further comprises transferring the pixel signals from the plurality of pixels to the plurality of sample and hold circuits on a row-by-row basis.

5. (Currently amended) An image sensor assembly comprising:

(a) an image sensor having rows and columns of pixels, the upper portion including ~~includes~~ rows of only image capture pixels that convert incident light into a charge, the bottom portion including rows of only dark reference pixels that are substantially shielded from light;

~~(b) a plurality of active pixels that receives incident light that is converted into a charge;~~

(b [[c]]) a plurality of sample and hold circuits for receiving signals from the dark reference pixels in each row of dark reference pixels, wherein a sample and hold circuit is electrically connected to each column of pixels;

(c [[d]]) a switch electrically connected to each sample and hold circuit ~~a plurality of dark reference pixels each of which is responsive to light and each of which is substantially shielded from light, wherein signals from each of the dark reference pixels is transferred to one of the sample and hold circuits~~; and

(d [[e]]) an operational amplifier for receiving the ~~that receives dark voltage~~ signals ~~for each row of dark reference pixels~~ from each of the sample and hold circuits on one clock cycle when the switches are in a first state, wherein the operational amplifier produces an average dark reference signal for each row of dark voltage signals.

6. (Cancelled).

7. (Previously presented) The image sensor as in claim 5, wherein each of the sample and hold circuits further comprises a charge storage element mated to each signal from the dark reference pixels, wherein a signal from each charge storage element is passed to the operational amplifier.

8. (Original) The image sensor as in claim 5, wherein the operational amplifier is a differential amplifier.

9. (Previously presented) The image sensor as in claim 5, wherein the pixel signals are transferred from the plurality of pixels to the plurality of sample and hold circuits on a row-by-row basis.

10. (Currently amended) A camera comprising:

an image sensor having rows and columns of pixels, the image sensor comprising:

(a) a plurality of active pixels that receives incident light that is converted into a charge, wherein the plurality of active pixels are positioned only in an upper portion of the image sensor;

(b) a plurality of sample and hold circuits;

(c) a plurality of dark reference pixels positioned only in a lower portion of the image sensor and each of which is responsive to light and each of which is substantially shielded from light, wherein signals from each of the dark reference pixels in each row is transferred to a respective one of the plurality of sample and hold circuits; ~~and~~

(d) a switch connected to each sample and hold circuit; and

(e [[d]]) an operational amplifier that receives a signal from each of the sample and hold circuits on one clock cycle when the switches are placed into a first state, wherein the operational amplifier averages the signals from the sample and hold circuits for providing an approximate average dark reference pixel signal for each row of dark reference pixels.

11. (Cancelled)

12. (Previously presented) The camera as in claim 10, wherein each of the sample and hold circuits further comprises a charge storage element mated to each signal from the dark reference pixels, wherein a signal from each charge storage element is passed to the operational amplifier.

13. (Original) The camera as in claim 10, wherein the operational amplifier is a differential amplifier.

14. (Previously presented) The camera as in claim 10, wherein the pixel signals are transferred from the plurality of pixels to the plurality of sample and hold circuits on a row-by-row basis.

15. (New) The method as in claim 1, further comprising the step of transferring the signals from each image capture pixel in each row of image capture pixels to the operational amplifier by placing the switches into a second state.

16. (New) The image sensor as in claim 1, wherein the signals are transferred from each image capture pixel in each row of image capture pixels to the operational amplifier by placing the switches into a second state.

17. (New) The camera as in claim 10, wherein the signals are transferred from each active pixel in each row of active pixels to the operational amplifier by placing the switches into a second state.